THE

EXTENSION HORTICULTURIST

MONTHLY EXTENSION BULLETIN

of the

OFFICE OF HORTICULTURAL & POMOLOGICAL INVESTIGATIONS

May 1, 1920.

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Dear Fellow Horticulturist:

One of the functions of this Office is to serve as a clearing house for information relative to the horticultural work in the states. It has been our practice, whenever a particularly good idea has come to our attention, to pass it along to the workers in the states either through correspondence or on the occasion of one of our personal visits.

At best, Prof. Close and myself, who are acting as extension horticulturists, can visit each state only occasionally and in order to keep in closer touch with the state people, especially those who are doing horticultural extension work, we have planned to put out a little monthly circular, known as The Extension Horticulturist. The success of this will depend almost entirely upon the cooperation we receive from the horticulturists of the state colleges. Tell us what you are doing and how you are putting it across; then we will be in position to tell others.

We will endeavor to give you at least one good idea in each issue of The Extension Horticulturist. Will you not give us your hearty cooperation and assist in making the little circular a real success?

Very truly yours,

J. R. Beattie

Extension Horticulturist.

Office of Horticultural and Pomological Investigations

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L. C. Corbett, Horticulturist in Charge

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- F. E. Miller
- C. J. Hunn
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Irish Potato Investigations:
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- C. F. Clark
- W. C. Edmundson
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Truck Crop Improvement Investigations:
- W. W. Tracy
- D. N. Shoemaker

Landscape Gardening and Floriculture Investigations:
- F. L. Mulford
- W. Van Fleet
- B. Y. Morrison

Bulb Culture Investigations:
- D. Griffiths

Fruit and Vegetable Utilization Investigations:
- J. S. Caldwell
- C. A. Magoon
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Fruit Identification:
- C. P. Close

Fruit Production Investigations:
- H. P. Gould
- C. F. Kinman
- Geo. M. Darrow

Grape Investigations:
- Geo. C. Husmann
- Charles Dearing
- F. L. Husmann
- Elmer Snyder
- G. L. Yerkes

Fruit Breeding and Systematic Investigations
- W. F. Wight
- Magdalene R. Newman

Fruit Improvement through Bud Selection:
- A. D. Shamel
- R. E. Caryl

Nut Investigations:
- C. A. Reed
- E. R. Lake

Fruit and Vegetable Storage Factors:
- L. A. Hawkins
- R. C. Wright
- G. F. Taylor
- J. F. Fernald
- R. L. Newton

Extension Work in Horticulture
(In cooperation with States Relations Service)
- W. R. Beattie - Extension Horticulturist
- C. P. Close - Extension Pomologist

The Office of Horticultural and Pomological Investigations of the Department was formed in 1914 by the consolidation of the Office of Horticulture and that of Pomological Investigations. Under the present organization the two lines of work, while being closely related and administered under one head, are still more or less distinct. The outline given on the preceding page gives a general idea of the organization of the office.

Prof. L. C. Corbett, horticulturist, is in general charge as administrative officer, handling all matters pertaining to personnel, policy and general plan of the horticultural and pomological work of the Department. Prof. Corbett also has charge of the Arlington Experiment Farm and directs the policy of the Gardens and Grounds of the Department. Prof. Corbett does little investigational work as his time is taken with administrative matters.

The project, known as Truck Crop Production Investigations, includes the work of vegetable forcing, general truck crop production and home gardening. Experimental work is conducted at the Arlington Experiment Farm, at a number of substations in various parts of the country in cooperation with the state colleges and experiment stations, and on the farms and in the greenhouses of practical growers. Just at present special attention is being given to the problems connected with the production of canning crops, and to the development of the sweet potato and peanut industries in the South. Recently a substation for the study of muck soil problems has been established near South Bend, Indiana, this location being selected in order to serve the large muck areas in the states of Michigan, Indiana, Illinois and Ohio.

Irish Potato Investigations, on account of the great importance of the Irish potato industry, are handled separately from the general truck crop production investigations. Prof. Wm. Stuart and a corps of assistants are conducting this work. An important feature of the Irish potato work is seed development and the breeding and testing out of seedlings with a view to securing strains and varieties that are disease resistant. The most promising strains of the leading commercial varieties are brought together and tested at stations in Washington, Oregon, Minnesota, Wisconsin and Maine. Special seedling tests are being conducted in one county in New Jersey in connection with local problems. As one result of the work performed on the Spooner Branch Station in Wisconsin, the growers in other parts of the state have asked for and financed similar work in their sections. In the southern potato growing territory comparisons are being made between northern grown certified stock and that locally produced, also with that which is being offered on the open market by dealers. Special substations have been established in a number of the leading potato growing states.

Truck Crop Improvement Investigations are under the direction

of Prof. W. W. Tracy Sr. and Dr. D. N. Shoemaker. Prof. Tracy was for more than thirty years connected with the D. M. Ferry Seed Co. and has now been with the Department for about fifteen years. Prof. Tracy is one of the leading authorities on varieties of vegetables and the particular strains of these varieties of the entire world. His work in the Department has been to a certain extent of an advisory nature. He also has made exhaustive studies of the varieties and strains offered by American Seedsmen. The investigational work is conducted for the most part at the Arlington Experiment Farm, although tests have been conducted in cooperation with seedsmen, also with the state colleges and experiment stations.

Landscape Gardening and Floricultural Investigations are under the direction of Mr. F. L. Mulford and Dr. Walter VanFleet. Mr. Mulford is devoting most of his time to landscape work, giving direct assistance to the state forces who are conducting this class of work. A number of most excellent bulletins have been issued. Dr. Van Fleet is well known as a breeder and originator of hardy ornamentals. A large part of the work is being conducted on Dr. Van Fleet's farm near Washington..

Bulb Culture Investigations, conducted by Dr. Griffiths, has to do mainly with the propagation and production of Easter lily and hyacinth bulbs in the United States. Results indicate that Dutch bulbs heretofore imported entirely from Holland can be produced to better advantage in this country. Dr. Griffiths has also been successful in producing very high grade Easter lilies direct from seed instead of in the usual manner. Certain phases of the work are conducted here at Washington but the practical field work is being done at Bellingham, Washington, where the government bulb gardens are located.

Fruit Production Investigations, under the direction of Mr. H. P. Gould assisted by Mr. Darrow and Mr. Kinman, include a wide range of fruit problems relating primarily to the varieties of fruit adapted to given localities and to the practical methods of commercial fruit growing. Just at present great interest centers in the production of American grown stocks for the propagation of our standard fruits, especially apples.

Grape Investigations are divided in two sections, first the work with the vinifera type of grape in California and the eastern bunch grapes, handled by Mr. Husmann, and second, the development of the Muscadine type of grape on the south Atlantic coast, in charge of Mr. Dearing. Investigations with the vinifera type relate to variety and cultural problems, also to finding suitable uses for the product of the California vineyards since the prohibition laws have gone into effect. The latter problem, however, has been largely solved and the demand for raisins and other products has exceeded production. Mr. Dearing has made important progress in the development of uses for the Muscadine grapes of the south Atlantic coast region. This work has included the experimental manufacture of a number of products and the establishment of a market for them.

The project on Fruit Breeding and Systematic Investigations, under the direction of Mr. Wight, includes the bringing together of information concerning the origin of varieties of fruits and the determination of important characters which will enable varieties, that have hitherto been frequently confused, to be distinguished. Detailed descriptions are prepared together with paintings and models of type material, the studies including the varying characteristics of varieties under different soil and climatic conditions.

Fruit Improvement through Bud Selection, under the direction of Mr. A. D. Shamel, is being conducted primarily with citrus fruits in California. As a result of the work of Mr. Shamel, thousands of unproductive citrus trees have been top-worked and made profitable. Mr. Shamel's investigations have shown that not only can improvement be secured through the selection of high producing individual trees as a source of bud supply but that this matter can be carried to particular branches of individual trees. As another result of Mr. Shamel's work, the Fruit Growers' Supply Company, a subsidiary company of the California Fruit Growers' Exchange, has established a bud supply department, the object being to furnish their members with high producing propagation stock. The California Nurserymen's Association has recently organized a bud supply association with Mr. L. B. Scott, formerly of this office, in charge. Mr. Shamel makes his headquarters at Riverside, California.

Nut Investigations, under the direction of Mr. C. A. Reed, include variety work with pecans and almonds, also matters pertaining to the culture, fertilization and general orchard management in the pecan industry of the South. The work is not confined entirely to pecans but includes all commercial nuts grown in the United States.

Fruit and Vegetable Utilization Investigations, under Dr. Caldwell, has to do with the economic utilization of surplus fruits and vegetables from the growers' standpoint. This work includes canning, drying, juice extraction and other methods of utilizing products of the orchard and garden that do not find an immediate and ready sale. The work is conducted primarily at the Arlington Experiment Farm where a laboratory for utilization work has been established.

Fruit Identification work is handled by Prof. C. P. Close. The Department receives from time to time a large number of samples of fruits for identification. These identifications are made by means of paintings and longitudinal sections of typical or standard samples of the various varieties. In conducting this identification work, it is the aim to give reliable nomenclature service and to supplement the similar work being done by many of the state colleges and experiment stations.

Fruit and Vegetable Storage Factors has to do primarily with the cold storage of fruits and vegetables, also flowers, and the determination of the underlying principles of cold storage, also the behavior of fruits and vegetables as living organisms in storage. This work is

conducted at the Arlington Experiment Farm where a splendid cold storage plant has been erected and fully equipped. This plant consists of sixteen cold storage chambers, each of which is under separate and complete temperature and moisture control. In addition, a large number of automatically controlled small units, which are operated within one of the sixteen storage units, are being used to determine detailed factors governing the keeping of the various products in cold storage. The cold storage plant is supplemented by a laboratory in which analysis and various physiological determinations can be made. This is perhaps the most complete experimental cold storage plant in the country and results not obtainable in large commercial storage houses are being secured.

In addition to the above lines of investigational work, Extension Work in Horticulture provides for carrying the information so obtained to the workers in the states. This extension work has been organized in cooperation with States Relations Service, North and West, and South. The pomological work of the northern and western states is being conducted by Prof. C. P. Close and the vegetable work by Mr. W. R. Beattie. Included with the fruit and vegetable extension work is that of landscape architecture and various problems pertaining to the horticultural improvement of the farm. In other words, extension specialists serve as a clearing agency for proven horticultural information, whether such information originates in the Department, in the experiment stations, or as a result of the work of the various state workers.

Briefly stated this is what we are doing. Tell us what you are doing and we will tell others. The next issue of the Extension Horticulturist will give a brief outline of what a few of the workers in the states are doing.